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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/531,135	03/17/2000	Tohru Watanabe	005586-20035	5243

26021 7590 04/20/2005

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EXAMINER

MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/531,135

Applicant(s)

WATANABE, TOHRU

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 - 6 and 8 - 10 is/are allowed.
- 6) ☒ Claim(s) 1, 7 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/6/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Note to the Applicant: The Examiner of record has changed for the present application.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9 August 2004 has been entered.

Response to Arguments

2. Applicant's arguments with respect to Claims 1, 7, and 11 have been considered but are moot in view of the new grounds of rejection.

Drawings

3. The drawings are objected to because of a minor inconsistency.

In **figure 3**, the reference sign "D1" is inserted as the result of subtraction "25" and the input into summer "26"; however, the specification describes that as being reference sign D1' (see page 12, line 4).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet,

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even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1, 7, and 11** are rejected under 35 U.S.C. 102(e) as being anticipated by Yamanaka et al.

6. For **Claim 1**, Yamanaka et al. disclose, as shown in figures 1, 2, and 4 and as stated in columns 6 (lines 16 – 67), a solid-state image pickup apparatus (see figure 1) comprising:

a solid-state image pickup device (11) in which a first light receiving pixel (EVEN) is disposed in a plurality of lines in one-line units (see figure 2A), and a second light receiving pixel (ODD) capable of being driven independently (see figures 2B, 2C, and 4 and column 6, lines 18 – 26) from said first light receiving pixel (EVEN) is disposed in at least one-line units between first light receiving pixels of the plurality of lines (see figure 2A);

a drive circuit (18; see figure 1) for driving the first and second light receiving pixels (EVEN and ODD) of said solid-state image pickup device (11) and accumulating information charges at mutually different times (see figures 4A and 4C) between first light receiving pixel (EVEN) and second light receiving pixel (ODD), as well as transferring and outputting information charges accumulated in said first and second light receiving pixels independently of each other (see figure 4C);

timing control circuit (20; see figure 1) for respectively setting the storage time of information charges at the first light receiving pixel (EVEN) and the storage time of information charges at the second light receiving pixel (ODD) of said solid-state image pickup device (1);
and

a signal processing circuit (24; see figure 1) for generating an image signal by adding a first output corresponding to the first light receiving pixel and a second output corresponding to the second light receiving pixel of said solid-state image pickup device (see figures 2D, 2E, and 4G);

wherein after driving the first and second light receiving pixels (EVEN and ODD) to accumulate information charges in the first and second light receiving pixels (EVEN and ODD), the drive circuit (18; see figure 1) adds information charges accumulated in the first light

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receiving pixel (EVEN) to information charges accumulated in the second light receiving pixel (ODD) and with the information charges thus accumulated in the second light receiving pixels, the drive circuit drives the first and second light receiving pixels to further accumulate information charges in the first and second light receiving pixels (see figures 2D and 2E).

7. For **Claim 7**, a solid-state image pickup apparatus (see figure 1) comprising:

a solid-state image pickup device (11) having a line of first light receiving pixels (EVEN) and a line of second light receiving pixels (ODD) disposed so as to respectively correspond to horizontal scanning lines (see figure 2) and capable of being driven independently (see figures 2B, 2C, and 4 and column 6, lines 18 – 26) from each other said first light receiving pixels (EVEN) and said second light receiving pixels (ODD);

a drive circuit (18; see figure 1) for driving the first and second light receiving pixels (EVEN and ODD) of said solid-state image pickup device (11) and accumulating information charges at mutually different times (see figures 4A and 4C) between first light receiving pixel (EVEN) and second light receiving pixel (ODD), as well as transferring and outputting information charges accumulated in said first and second light receiving pixels independently of each other (see figure 4C) and generating a first output according to said information charges accumulated in said first light receiving pixels (see figure 4D) and a second output according to said information charges accumulated in said second light receiving pixels (see figure 4D); and

a signal processing circuit (24; see figure 1) for generating an image signal by adding together the first output and the second output corresponding to identical horizontal scanning lines (see figures 2D, 2E, and 4G);

wherein after driving the first and second light receiving pixels (EVEN and ODD) to accumulate information charges in the first and second light receiving pixels (EVEN and ODD), the drive circuit (18; see figure 1) adds information charges accumulated in the first light receiving pixel (EVEN) to information charges accumulated in the second light receiving pixel (ODD) and with the information charges thus accumulated in the second light receiving pixels, the drive circuit drives the first and second light receiving pixels to further accumulate information charges in the first and second light receiving pixels (see figures 2D and 2E).

8. For **Claim 11**, Yamanaka et al. disclose, as shown in figures 1, 2, and 4 and as stated in columns 6 (lines 16 – 67), a solid-state image pickup apparatus (see figure 1) comprising:

a solid-state image pickup device (11) in which a first light receiving pixel (EVEN) is disposed in a plurality of lines in one-line units (see figure 2A), and a second light receiving pixel (ODD) capable of being driven independently (see figures 2B, 2C, and 4 and column 6, lines 18 – 26) from said first light receiving pixel (EVEN) is disposed in at least one-line units between first light receiving pixels of the plurality of lines (see figure 2A);

a drive circuit (18; see figure 1) for driving the first and second light receiving pixels (EVEN and ODD) of said solid-state image pickup device (11) and accumulating information charges at mutually different times (see figures 4A and 4C) between first light receiving pixel (EVEN) and second light receiving pixel (ODD);

timing control circuit (20; see figure 1) for respectively setting the storage time of information charges at the first light receiving pixel (EVEN) and the storage time of information charges at the second light receiving pixel (ODD) of said solid-state image pickup device (1);
wherein

after driving the first and second light receiving pixels (EVEN and ODD) to accumulate information charges in the first and second light receiving pixels (EVEN and ODD), the drive circuit (18; see figure 1) adds information charges accumulated in the first light receiving pixel (EVEN) to information charges accumulated in the second light receiving pixel (ODD) and with the information charges thus accumulated in the second light receiving pixels, the drive circuit drives the first and second light receiving pixels to further accumulate information charges in the first and second light receiving pixels (see figures 2D and 2E).

Cited Prior Art

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. More specifically, Yonemoto also discloses a solid-state image pickup device including alternating columns of first and second light receiving pixels; wherein the first and second light receiving pixels have mutually different accumulation times and added together.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:00 PM and on alternating Fridays from 8:00 AM to 4:30 PM.

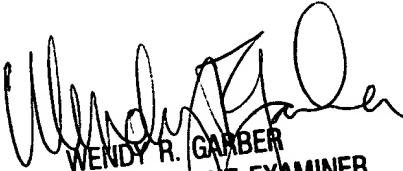
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 571.272.7308. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM

April 16, 2005


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